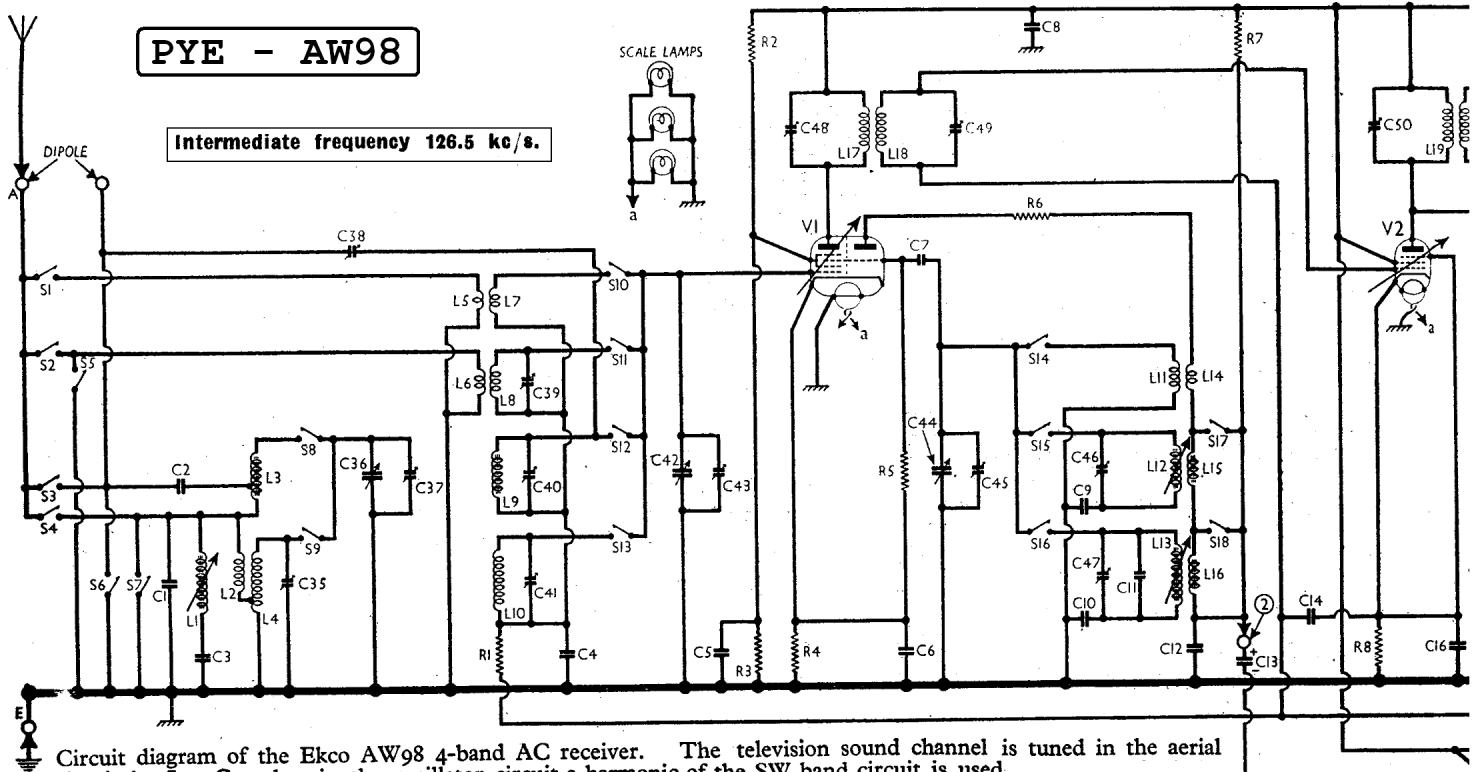
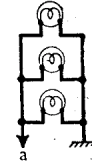


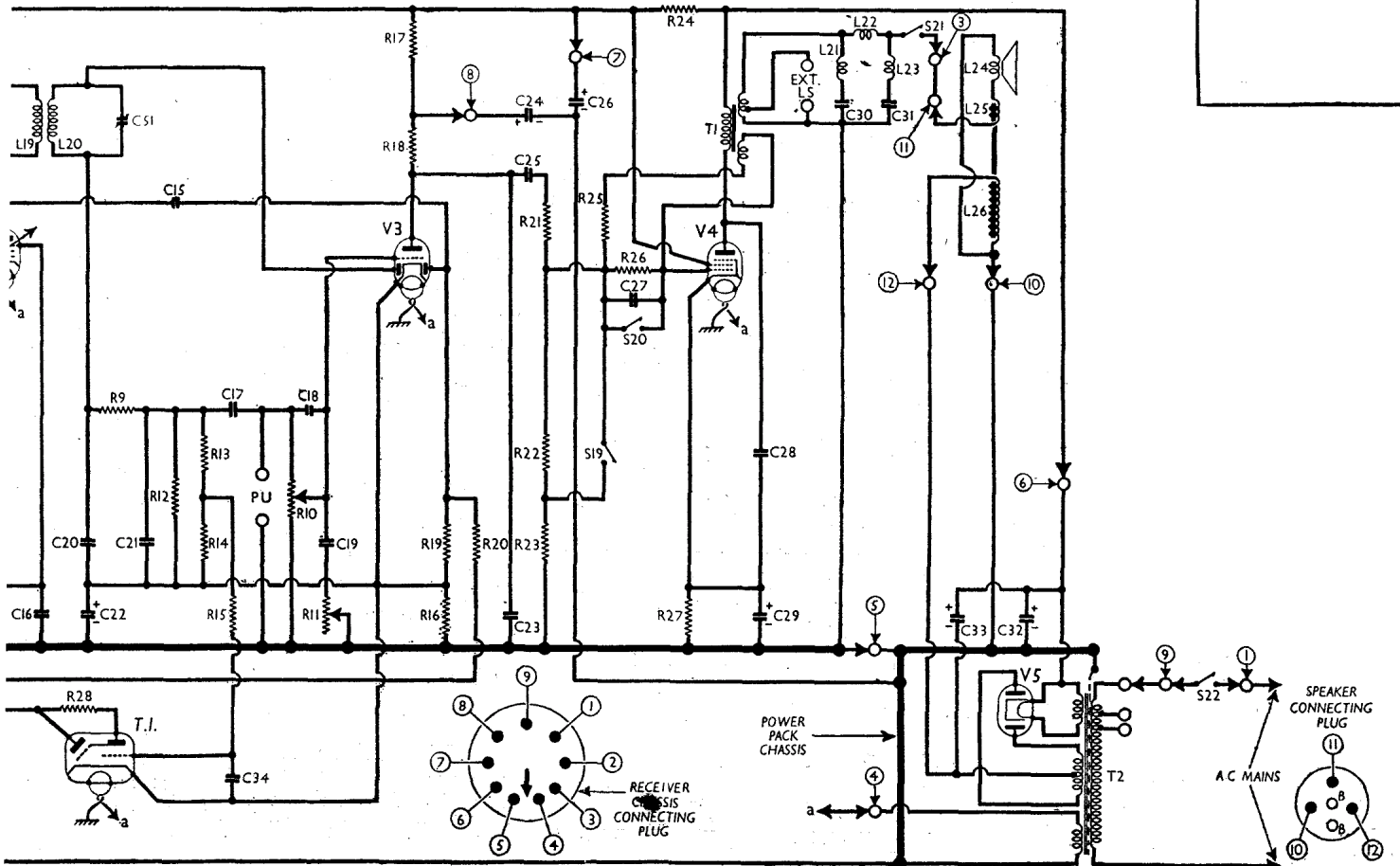
# PYE - AW98

Intermediate frequency 126.5 kc/s.

SCALE LAMPS



Circuit diagram of the Ekco AW98 4-band AC receiver. The television sound channel is tuned in the aerial circuit by L7, C42, but in the oscillator circuit a harmonic of the SW band circuit is used.

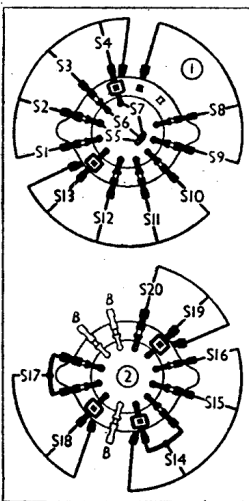


CONDENSERS		Values ( $\mu$ F)
C1	Aerial capacity swamp ...	0-001
C2	Aerial MW coupling ...	0-001
C3	Aerial IF filter tuning ...	0-00015
C4	V1 hex. CG decoupling ...	0-001
C5	V1 SG decoupling ...	0-1
C6	V1 cathode by-pass ...	0-1
C7	V1 osc. CG condenser ...	0-00005
C8	HT circuit RF by-pass ...	0-1
C9†	Osc. circuit MW tracker ...	0-002
C10	Osc. circuit LW tracker ...	0-0008
C11	Osc. LW fixed trimmer ...	0-00006
C12	V1 osc. anode RF by-pass ...	0-1
C13*	V1 osc. anode decoupling ...	2-0
C14	V2 CG decoupling ...	0-04
C15	Coupling to V3 AVC diode ...	0-000015
C16	V2 cathode by-pass ...	0-1
C17	AF coupling to V3 triode ...	0-01
C18	Fixed tone corrector ...	0-00006
C19	Part variable tone control ...	0-002
C20	IF by-pass condensers ...	0-0002
C21†		0-0002
C22*	V3 cathode by-pass ...	25-0
C23	IF by-pass ...	0-0003
C24*	V3 triode anode decoupling ...	2-0
C25	V3 triode to V4 coupling ...	0-01
C26*	Part HT smoothing ...	4-0
C27	Part feed-back coupling ...	0-02
C28	Fixed tone corrector ...	0-004
C29*	V4 cathode by-pass ...	50-0
C30	Parts of whistle filter ...	0-2
C31		0-2
C32*	HT smoothing condensers ...	8-0
C33†		8-0
C34	T.I. CG decoupling ...	0-1
C35†	B-P pri. LW trimmer ...	—
C36†	Band-pass pri. tuning ...	—
C37†	B-P pri. MW trimmer ...	—
C38†	Image suppressor ...	—
C39†	Aerial SW trimmer ...	—
C40†	B-P sec. MW trimmer ...	—
C41†	B-P sec. LW trimmer ...	—
C42†	Band-pass sec. tuning ...	—
C43†	Aerial TS trimmer ...	—
C44†	Oscillator circuit tuning ...	—
C45†	Osc. circuit SW trimmer ...	—
C46†	Osc. circuit MW trimmer ...	—
C47†	Osc. circuit LW trimmer ...	—
C48†	1st IF trans. pri. tuning ...	—
C49†	1st IF trans. sec. tuning ...	—
C50†	2nd IF trans. pri. tuning ...	—
C51†	2nd IF trans. sec. tuning ...	—

\* Electrolytic. † Variable. ‡ Pre-set.

### Switch Table and Diagrams

Right. Diagrams of the two switch units, drawn as seen when viewed in the directions of the arrows in the under-chassis view opposite.  
Below. Table giving the switch positions for the four control settings.



Switch	LW	MW	SW	TS
S1	—	—	—	C
S2	—	—	—	—
S3	—	—	—	—
S4	C	—	—	—
S5	—	—	—	—
S6	—	—	—	C
S7	—	—	—	—
S8	—	—	—	—
S9	C	—	—	—
S10	—	—	—	C
S11	—	—	—	—
S12	—	—	—	—
S13	C	—	—	—
S14	—	—	—	—
S15	—	—	—	—
S16	C	—	—	—
S17	—	—	—	C
S18	—	—	—	—
S19	—	—	—	C
S20	—	—	—	—

RESISTORS		Values (ohms)
R1	V1 hex CG decoupling ...	250,000
R2	V1 SG HT potential ...	12,500*
R3	divider ...	25,000
R4		250
R5	V1 fixed GB resistor ...	25,000
R6	V1 osc. anode stabiliser ...	200
R7	V1 osc. anode HT feed ...	20,000†
R8	V2 fixed GB resistor ...	300
R9	IF stopper ...	100,000
R10	Manual volume control ...	1,000,000
R11	Variable tone control ...	1,500,000
R12	V3 signal diode load ...	250,000
R13	T.I. feed potential divider ...	1,000,000
R14		750,000
R15	T.I. CG decoupling ...	500,000
R16	V3 GB resistor ...	2,000
R17	V3 triode anode decoupling ...	10,000
R18	V3 triode anode load ...	100,000
R19	V3 AVC diode load ...	750,000
R20	AVC line decoupling ...	1,000,000
R21	V4 CG resistors ...	50,000
R22		500,000
R23	HT smoothing resistor ...	40,000
R24		1,500§
R25	Negative feed-back coup- ling resistors ...	4,000
R26		20,000
R27	V4 GB resistor ...	200
R28	T.I. anode HT feed ...	2,000,000

\* Two 25,000  $\Omega$  in parallel.  
† Two 40,000  $\Omega$  in parallel.  
§ Two 750  $\Omega$  in series.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial IF filter coil ...	40-0
L2	Aerial LW coupling coil ...	40-0*
L3	Band-pass primary coils ...	2-5
L4		30-0
L5	Aerial TS coupling coil ...	Very low
L6	Aerial SW coupling coil ...	0-4
L7	Aerial TS tuning coil ...	Very low
L8	Aerial SW tuning coil ...	0-05
L9	Band-pass secondary tun- ing coils ...	2-5
L10		27-0
L11	Oscillator TS and SW tun- ing coil ...	0-05
L12	Osc. MW tuning coil ...	3-0
L13	Osc. LW tuning coil ...	9-0
L14	Osc. TS and SW reaction ...	0-4
L15	Oscillator MW reaction ...	0-6

(Continued next col.)

\* Including part of L4, from tap to chassis.

OTHER COMPONENTS (Continued)		Approx. Values (ohms)
L16	Oscillator LW reaction ...	2-0
L17	1st IF trans. { Pri. ...	80-0
L18		80-0
L19	2nd IF trans. { Pri. ...	80-0
L20		80-0
L21	Parts of whistle filter ...	2-5
L22		5-5
L23	Speaker speech coil ...	2-5
L24		24-0
L25	Hum neutralising coil ...	0-7
L26	Speaker field coil ...	750-0
T1	Output trans. { Pri. ...	170-0
		2-6
	Tert. ...	48-0
		23-0
T2	Mains trans { Heater sec. ...	0-05
		0-1
	Rect. heat. sec. ...	375-0
		—
S1-S20	Waveband switches ...	—
S21	Internal speaker switch ...	—
S22	Mains switch, ganged R10 ...	—

### VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 TH4A	233 95	3-8 7-1	101	7-1
V2 VP41	233	12-0	233	5-2
V3 DT41	100	1-1	—	—
V4 OP41	295	59-0	233	6-6
V5 IW4/350	265†	—	—	—
T.I. TV4	20 233	0-1 Target 0-5	—	—

† Each anode, AC.

### CIRCUIT ALIGNMENT

**IF Stages.**—Connect signal generator to E socket, and via a 0.02  $\mu$ F condenser to control grid (top cap) of V1, leaving existing clip in position. Switch set to LW, turn gang to maximum, feed in a 126.5 kc/s (2,372 m) signal, and adjust C48, C49, C50 and C51 for maximum output.

**RF and Oscillator Stages.**—Connect signal generator to A and E sockets, via a suitable dummy aerial. See that cursor line covers the 550 m mark when gang is at maximum. Volume control should be at maximum during alignment.

**SW and TS.**—Switch set to SW, tune to 18 Mc/s on scale, and fully unscrew C45. Feed in an 18 Mc/s (16.67 m) signal, and screw in C45 slowly. Two peaks will be found, of which the first reached is the correct one. Adjust C45 accurately to this.

Switch set to TS, feed in a 20.75 Mc/s (14.45 m) signal at full generator output (its second harmonic being 41.5 Mc/s) and adjust C43 for maximum output.

Switch to SW, feed in a 15 Mc/s signal, tune to 15 Mc/s on scale, and adjust C39 for maximum output.

**MW.**—Switch set to MW, tune to 200 m on scale, and fully unscrew C46. Feed in a 200 m (1,500 kc/s) signal, and screw in C46 slowly, adjusting it accurately to the first peak reached. Tune to 250 m on scale, feed in a 250 m (1,200 kc/s) signal, and adjust C40 and C37 for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust iron core of L12 for maximum output, while rocking the gang for optimum results. Repeat the adjustments at 200, 250 and 500 m.

**LW.**—Switch set to LW, tune to 1,100 m on scale, feed in a 1,100 m (272.5 kc/s) signal, and adjust C47, C41 and C35 for maximum output. C35 is adjusted by sliding the spiralled wire on the insulating sleeve over the straight wire.

Tune to 1,700 m on scale, feed in a 1,700 m (176.5 kc/s) signal, and adjust core of L13 for maximum output, while rocking the gang.

**IF Filter.**—Leaving set tuned to 1,700 m, feed in a 126.5 kc/s (2,372 m) signal at full generator output, and adjust core of L1 for minimum output. Reduce generator output, and adjust to 272.5 kc/s. Tune to 1,100 m on scale, and repeat LW alignment as above.

Switch set to MW, feed in a 1,000 kc/s (300 m) signal at full generator output. Tune receiver to image of generator frequency (about 400 m) and adjust C38 for minimum output.

Tune to 250 m, feed in a 250 m (1,200 kc/s) signal, and re-adjust C40 for maximum output.

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